



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,148	04/08/2004	Cary Lee Bates	ROC920030386US1	9493
7590 Robert R. Williams IBM Corporation Dept. 917 3605 Highway 52 North Rochester, MN 55901-7829			EXAMINER SMITH, CHENECA	
			ART UNIT 2192	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,148

Applicant(s)

BATES ET AL.

Examiner

Cheneca P. Smith

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This action is in response to the application filed on 4/08/2004.
2. Claims 1-20 have been examined.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 9 recites a "signal-bearing medium." However, it appears that this "signal-bearing medium" is intended to include a "communications medium including wireless communications," which is a signal (see page 10, lines 20-22 of specification). A product is a tangible physical article or object, some form of matter, which a signal is not. A signal, a form of energy, does not fall within one of the four statutory classes of § 101. As such, the claimed "machine-accessible medium" is not limited to embodiments that fall within a statutory category of invention (see Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility - Annex IV(c) (1300 OG 142 signed 26Oct2005). Consequently, claim 9 is rejected as non-statutory.

Claims 10-12 mirror the deficiencies of claim 16 and are also rejected as non-statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 6, 8-15, 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Koderia US Patent 6,718,484 B1.

As to claim 1, Koderia teaches a method comprising:
determining whether a thread encountered a scoped breakpoint (see FIG.8, ST1 and associated text, e.g. col.11 lines 28-29 and lines 38-39) and if the determining is true, halting execution of the thread if the thread previously encountered an entry breakpoint (see fig.8, ST3-ST5 and associated text, e.g. col.12 lines 24-27).

As to claim 2, Koderia teaches the method of claim 1, further comprising if the determining is true, allowing execution of the thread to continue if the thread did not previously encounter the entry breakpoint (see FIG.9, ST10, ST13 and associated text, e.g. col.7 lines 13-19).

As to claim 3, Koderia teaches the method of claim 1, wherein the scoped breakpoint is within a region bounded by the entry breakpoint and an end

Art Unit: 2192

breakpoint (see FIG.12 and associated text, e.g. col.8 lines 38-41 and col.11 lines 2-5).

As to claim 5, Koderia teaches an apparatus comprising:
means for determining whether a thread encountered a scoped breakpoint (see FIG.8, ST1 and associated text, e.g. col.11 lines 28-29 and lines 38-39),
means for halting execution of the thread if the thread previously encountered an entry breakpoint and if the determining is true (see fig.8, ST3-ST5 and associated text, e.g. col.12 lines 24-27), and
means for allowing execution of the thread to continue if the thread did not previously encounter the entry breakpoint and if the determining is true (see FIG.9, ST10, ST13 and associated text, e.g. col.7 lines 13-19).

As to claim 6, Koderia teaches the apparatus of claim 5, wherein the scoped breakpoint is within a region bounded by the entry breakpoint and an end breakpoint (see FIG.12 and associated text, e.g. col.8 lines 38-41 and col.11 lines 2-5).

As to claim 8, Koderia teaches the apparatus of claim 6, further comprising means for allowing execution of the thread to continue upon the thread encountering the entry breakpoint and the end breakpoint (col.7 lines 5-9 and col.12 lines 24-27).

As to claim 9, Koderia teaches a signal-bearing medium encoded with instructions (see col.19 line 65-col.20 line 43), wherein the instructions when executed comprise:
saving a definition of a region in a program bounded by an entry breakpoint and

Art Unit: 2192

an end breakpoint (see FIG.4 and associated text, e.g. col.9 lines 11-20),
if a thread encounters the entry breakpoint, saving an identifier of the thread,
(see FIG.5 and associated text, e.g. col.9 lines 27-28),
if the thread encounters a scoped breakpoint within the region, determining
whether the identifier was saved (see FIG.5 and associated text, e.g. col.9 lines
27-28),
if the identifier was saved and the scoped breakpoint was encountered, halting
execution of the thread (col.12 lines 24-27) and
if the identifier was not saved and the scoped breakpoint was encountered,
allowing execution of the thread to continue (col.7 lines 13-19).

As to claim 10, Koderia teaches the signal-bearing medium of claim 9,
further comprising:
allowing execution of the thread to continue upon the thread encountering the
entry breakpoint (col.7 lines 13-19) and
allowing execution of the thread to continue upon the thread encountering the
end breakpoint (col.7 lines 5-9).

As to claim 11, Koderia teaches the signal-bearing medium of claim 9,
further comprising saving a definition of the scoped breakpoint within the region
(see FIG.5 and associated text, e.g. col.9 lines 25-27).

As to claim 12, Koderia teaches the signal-bearing medium of claim 9,
further comprising after the thread encounters the end breakpoint, removing the
saved identifier of the thread (col.7 lines 5-9).

As to claim 13, Koderia teaches a computer system comprising:

Art Unit: 2192

a processor (see FIG.1 and associated text) and memory encoded with instructions, wherein the instructions when executed on the processor (see FIG.1 and associated text, e.g. col.3 lines 47-50) comprise:

saving a definition of a region in a program bounded by an entry breakpoint and an end breakpoint (see FIG.4 and associated text, e.g. col.9 lines 11-20),

saving a definition of a scoped breakpoint within the region (see FIG.5 and associated text, e.g. col.9 lines 25-27),

if a thread encounters the entry breakpoint, saving an identifier of the thread (col.9 lines 27-28),

if the thread encounters the scoped breakpoint within the region, determining whether the identifier was saved (col.9 lines 27-28),

if the identifier was saved and the scoped breakpoint was encountered, halting execution of the thread (col.12 lines 24-27), and

if the identifier was not saved and the scoped breakpoint was encountered, allowing execution of the thread to continue (col.7 lines 13-19).

As to claim 14, Koderia teaches the computer system of claim 13, wherein the instructions further comprise:

allowing execution of the thread to continue upon the thread encountering the entry breakpoint (col.12 lines 24-27) and

allowing execution of the thread to continue upon the thread encountering the end breakpoint (col.7 lines 5-9).

As to claim 15, Koderia teaches the computer system of claim 13, wherein the instructions further comprise after the thread encounters the end breakpoint, removing the saved identifier of the thread (col.7 lines 5-9).

As to claim 17, Koderia teaches a method of configuring a computer, wherein the method comprises:
configuring the computer to determine whether a thread encountered a scoped breakpoint (see FIG.8, ST1 and associated text, e.g. col.11 lines 28-29 and lines 38-39) and
configuring the computer to halt execution of the thread if the thread previously encountered an entry breakpoint and if the thread encountered the scoped breakpoint (see FIG.8, ST3-ST5 and associated text, e.g. col.12 lines 24-27).

As to claim 18, Koderia teaches the method of claim 17, further comprising configuring the computer to allow execution of the thread to continue if the thread did not previously encounter the entry breakpoint and if the thread encountered the scoped breakpoint (see FIG.9: ST10, ST13 and associated text, e.g. col.7 lines 13-19).

As to claim 19, Koderia teaches the method of claim 17, wherein the scoped breakpoint is within a region bounded by the entry breakpoint and an end breakpoint (see FIG.12 and associated text, e.g. col.8 lines 38-41 and col.11 lines 2-5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2192

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 7, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alverson et al (US Patent 6,848,097 B1).

As to claim 4, Koderia teaches the limitations of claim 1 but does not specifically teach wherein the entry breakpoint is executed conditionally. In an analogous art, however, Alverson is cited to teach wherein the entry breakpoint is executed conditionally (col.14 lines 41-43). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Koderia and Alverson to provide users with more useful techniques for debugging in a multithreaded environment, as disclosed by Alverson (see abstract).

As to claim 7, Koderia teaches the limitations of claim 5 but does not specifically teach wherein the entry breakpoint is executed conditionally. In an analogous art, however, Alverson is cited to teach wherein the entry breakpoint is executed conditionally (col.14 lines 41-43). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Koderia and Alverson to provide users with more useful techniques for debugging in a multithreaded environment, as disclosed by Alverson (see abstract).

As to claim 16, Koderia teaches the limitations of claim 13 but does not specifically teach wherein the entry breakpoint is part of a conditional construct in

Art Unit: 2192

the program. In an analogous art, however, Alverson is cited to teach wherein the wherein the entry breakpoint is part of a conditional construct in the program (col.14 lines 41-43). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Koderer and Alverson to provide users with more useful techniques for debugging in a multithreaded environment, as disclosed by Alverson (see abstract).

As to claim 20, Koderer teaches the limitations of claim 5 but does not specifically teach the apparatus of claim 5, wherein the entry breakpoint is executed conditionally. In an analogous art, however, Alverson is cited to teach wherein the entry breakpoint is executed conditionally (col.14 lines 41-43). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Koderer and Alverson to provide users with more useful techniques for debugging in a multithreaded environment, as disclosed by Alverson (see abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheneca P. Smith whose telephone number is (571) 270-1651. The examiner can normally be reached on Monday-Friday 7:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2192

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CS
12/6/2007.



TUANDAM
CUSTOMER SERVICE REPRESENTATIVE